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(54) Light Controller

DE 296 07 270 U1

Light Controller

Conventional beside lamps generally employ an incandescent lamp to generate the light and a plastic decorative component to cover the incandescent lamp. Since the incandescent lamp generates heat when it is on, the plastic decorative component tends to heat up and warp or melt. If the plastic decorative component of the beside lamp melts, it may cause a fire.

The goal of the invention is therefore to create a light controller which eliminates the disadvantages of the prior art.

According to the invention, this goal is achieved by a light controller with the features listed in Claim 1. The dependent claims describe preferred embodiments.

Additional features and advantages of the invention will become clear from a reading of the following description of preferred embodiments which reference the attached drawings.

Figure 1 is a perspective view of a lighting device according to the invention;

Figure 2 is a side view of a control board according to the invention;

Figure 3 is a schematic diagram of the control circuit for the invention; and

Figure 4 is a lighting device according to the invention which has a decorative component in the form of an artificial flower of frosted glass.

As Figures 1 and 2 illustrate, a light controller according to the invention generally comprises a lighting device 1 and a control board 2. The lighting device contains a base plate 12, a reflector 13 which is mounted on the top side of base plate 12, three sets of LEDs (light-emitting diodes) 15 of different colors (including at least two red LEDs, two yellow LEDs, and two blue or green LEDs), the LEDs being mounted in the respective holes (not shown) on reflector 13, a transparent lamp shield 11 which is attached to base plate 12 and covers reflector 13, and an IC (integrated circuit) 14 which is mounted within base plate 12 and has five contact tabs 16 which project from the bottom side of base plate 12. Contact tabs 16 of IC 14 include three control terminals K1, K2, and K3, each of which is connected to three sets of LEDs 15, a ground GND, and a power supply terminal V_{CC}. Control board 2 contains five plug contact holes 21 for the insertion of contact tabs 16, as well as three control buttons 22 of different colors. Each

control button 22 controls the luminous frequency and brightness for the corresponding color of the LEDs. The procedure for use is that lighting device 1 is mounted on control board 2, contact tabs 16 being inserted into plug contact holes 21 and control board 2 then being connected to a power supply. The operation of IC 14 and the control of control buttons 22 results in lighting device 1 being controlled in such a way that it generates a variable lighting effect.

Figure 3 is a schematic diagram of a control circuit according to the invention. When LED 15 of the control circuit is turned on, it generates a high-frequency pulse. However, at a given point in time, only one LED is turned on. Operating control buttons 22 for controlling the luminous frequency and brightness of the three sets of LEDs 15 results in LEDs 15 being turned on in alternating fashion so as to generate a variable lighting effect.

As Figure 4 illustrates, it is possible to mount a translucent decorative component, such as an artificial flower of frosted glass 3, around lighting device 1 in order to scatter the light from lighting device 1 in different directions.

Claims

1. Light controller, *characterized in* that a lighting device (1) comprising a base plate (12); three sets of light-emitting diodes of different colors (15) which are mounted on the top of the base plate (12); an integrated circuit (14) which is mounted within the base plate (12), is connected to the light-emitting diodes (15), and is controlled by the control buttons (15), in order to control the luminous frequency and brightness of the light-emitting diodes (15), wherein the integrated circuit (14) has multiple contact tabs (16) which project from the base plate (12); a lamp shield (11) which is attached to the base plate (12) and covers the light-emitting diodes (15); and a reflector (13) which is mounted on the base plate (12) within the lamp shield (11) to reflect the light from the light-emitting diodes (15); and

a control board (2) which is connected to a power supply and serves to control operation of the lighting device (1), wherein the control board (2) has multiple plug contact holes (21) which are designed to connect to the contact tabs (16) of the integrated circuit (14), as well as multiple control buttons (22) which are connected to the plug contact holes (21), in order to use the circuit (14) to control the luminous frequency and brightness of the light-emitting diodes (15).

2. Device according to Claim 1, characterized in that the three sets of light-emitting diodes (15) of different colors comprise one set of red light-emitting diodes, one set of yellow light-emitting diodes, and one set of blue light-emitting diodes.

3. Device according to Claim 1, characterized in that the three sets of light-emitting diodes of different colors (15) comprise one set of red light-emitting diodes, one set of yellow light-emitting diodes, and one set of green light-emitting diodes.

4. Device according to Claim 1, characterized in that a translucent decorative component (3) is mounted surrounding the lighting device (1).

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Figure 3

driver (x 3)
programmable controller (x 3)
decoder memory (x 3)
oscillator counter
upward-downward controller